

# Backboards Anyone?

Information Provided By:

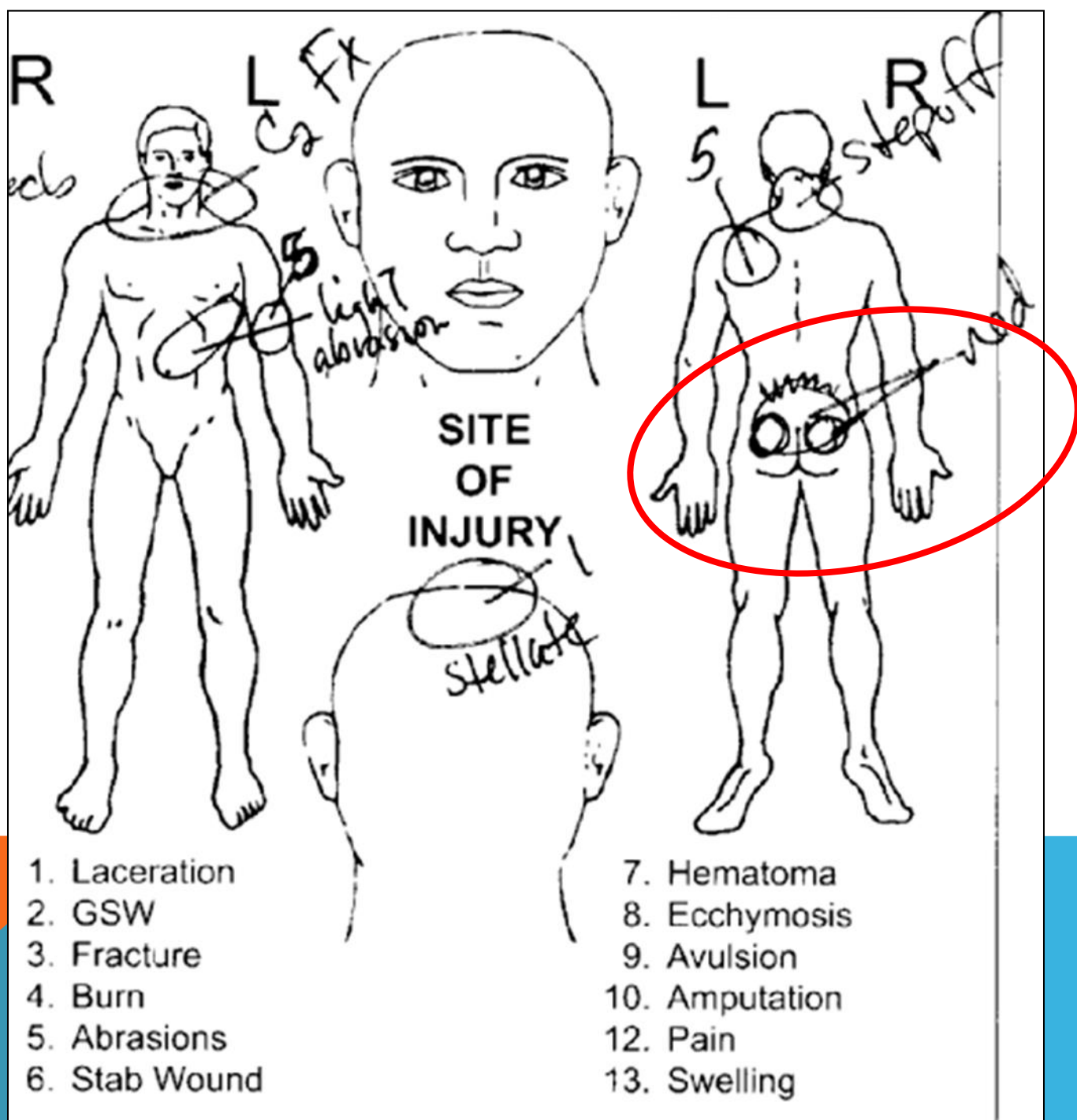
Randi Koehn, RN, MSN

Director of Trauma

Sky Ridge Medical Center



1056	EMS immobilization
1124	ED MD pt. contact
1204	Back inspection with Re-immobilization
1325	Pt requests removal; Ativan & Morphine given
1356	RN advocates for Foley
1731	Arrival to Level 2
1737	Backboard removal









# RESEARCH SHOWS....

A 2013 survey, published in the Journal of Emergency Medicine, found that the mean backboard time after arrival in the ED was 54 mins.

The Am J Emerg Med published a 10wk study of duration of pt. immobilization in the ED.

- 138 pts were in the study and the total backboard time (TBT) averaged 63.63 mins.
- Dividing pts who were removed from the backboard prior to radiographs n=85 the TBT average was 53.9 mins.
- Whereas the average for those who had radiographs prior to removal from backboard n=7 was 181.3 mins.

Backboards have even been studied on healthy volunteers in a University teaching hospital. (Ann Emerg Med 1994, Jan; 23(1)).

- 21 healthy volunteers with no hx. were placed in standard backboard immobilization for 30min.  
100% developed pain with the observation period to occiput, sacral, lumbar, mandibular. 55% graded sx. as moderate to severe.
- 29% developed additional symptoms over the next 48hrs after being removed from the backboard.

# RISKS OF LEAVING ON THE BOARD...

## Increased Pain

### Neurologic function impairment d/t pathologic motion

- AANS 3-25% of spinal cord injuries occur after the initial traumatic insult, either during transit or early in the course of management.

### Pressure ulcers: In sub-dermal tissues under bony prominences occur approximately between 1 to 4-6 hours


- Board
- Collar

### Respiratory Restriction

- Spinal immobilization with a c-collar applied restricts respiration by an average of 15% (AANS).



# **COST OF CARING FOR PRESSURE ULCERS**

- **Annually \$400,000 – \$700,000**
  - **Mean cost \$2,731**
  - **20mins/day/pt of RN time**
  - **Hospital developed = LOS ↑**
  - **↓ Pt satisfaction**
- 



# BACKBOARD REMOVAL GUIDELINES / PROTOCOLS

Guidelines for the Management of Acute Cervical Spine and Spinal Cord Injuries (American Association of Neurological Surgeons)

<http://www.aans.org/>

- Goal is 20 minutes

## Montana Trauma Treatment Manual

- Remove patient from backboard while awaiting transfer:
  - ✓ Head of bed flat
  - ✓ C-Collar left in place
  - ✓ Minimize patient movement
  - ✓ Log Roll Only!
- Replace padded backboard prior to transfer

# **NEXUS CRITERIA**

**Bedside clearance of C-Spine is appropriate when:**

- Patient is NOT intoxicated
- Patient has normal mentation (GCS = 15)
- Patient has NO neurological deficits
- Patient has NO midline neck pain
- Patient has NO distracting injuries

**NEXUS Criteria DOES apply to kids!**

**Montana Treatment Manual has an entire section on pediatric C-spine clearance and algorithm**

# Adult C-Spine Clearance Algorithm

